MESTER, UNIV CALIFORNIA, ISSN: 0160-2764, UNITED STATES

# Investigating Interorganizational Citizenship Behaviors and the Changes in Organizational Culture Perception Based on the Personal Characteristics of Healthcare Professionals

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***Abstract***

*The primary purpose of this study was to test whether the organizational culture perceptions and interorganizational citizenship behaviors of healthcare professionals differ according to the variables of age, gender, educational level, professional experience, and the duration of employment at the same workplace. Its secondary purpose was to determine the relationship between the organizational culture perceived by healthcare professionals and the interorganizational citizenship behavior and to find out the effect of organizational culture characteristics on interorganizational citizenship behavior. The population of the study consisted of 2,896 individuals working at three independent public hospitals in the cities of Bursa, Eskişehir, and Bilecik in Turkey. The sample group consisted of 2156 healthcare professionals. The sample corresponds to 74.5% of the population. The results of the study indicated that the organizational culture perceptions of healthcare professionals differ by gender, education, profession, and the duration of employment at the same workplace; interorganizational citizenship behaviors differ by profession and professional seniority; and interorganizational sportsmanship and interorganizational compliance subdimensions differ by education and the duration of employment at the same workplace. The interorganizational citizenship behaviors exhibited most frequently by the healthcare professionals in the study were in the subdimensions of information sharing, altruism, sportsmanship, and compatibility.*

*According to the results of the study, the hierarchy culture perceptions among healthcare professionals were higher than their perceptions of clan and adhocracy and market culture. The subdimensions of clan and adhocracy and market culture had a positive effect, while the hierarchy culture had a negative effect on interorganizational citizenship behaviors.*

***Keywords:*** *organizational culture, interorganizational citizenship behavior, healthcare professional, public hospitals*

## Introduction

Rapid changes and ambiguous market conditions in the external environment where organizations continue their operation lead to the narrowing of borders. Consequently, organizations are, in a sense, forced to display collaborative behaviors under intertwined working conditions. In this context, the investigation of interorganizational citizenship behaviors emerging as socially oriented behaviors at the individual level that are transferred to interorganizational relations becomes increasingly crucial for organizations. The primary aim of this study was to determine the relationship between organizational culture perceptions and interorganizational citizenship behaviors based on the personal characteristics of healthcare professionals and the effect of the kind of organizational culture on interorganizational citizenship behavior. Studies in the literature are investigating interorganizational citizenship behavior in the manufacturing-oriented sector to a limited extent (Özdevecioğlu & Akın, 2013, pp. 112-131); however, the number of empirical studies conducted in the service industry remained insufficient (Tokay & Eyüpoğlu¸ 2018, p. 397; Yoon and Sulh; 2003: 597-611). This study, which was carried out in healthcare institutions, which are a part of the service industry and where an intense level of interaction takes place among people, eventually aims to fill this gap in the literature and present empirical evidence.

According to "Social Exchange Theory" by Blau (1964), employees do not only engage in business exchange relations but also engage in social exchange relations (Bozkurt, 2010, p. 8). The determinants of this retribution interchange are trust, honesty, loyalty, and mutual commitment. The timing and nature of the retribution is voluntariness. According to this theory, any inconsistency between the expectations of the employees and the benefits of the organization causes employees to perceive inequality and give up displaying citizenship behavior by reducing their contribution to the organization (Turnley, Bolino, Lester, & Bloodgood, 2003, pp. 187-206). For a fair social exchange relationship, employees engage in a cooperative attitude with the organization and tend to exhibit citizenship behavior (Materson, Lewis, Goldman, & Taylor, 2000, pp. 738-748). Each organization is unique and holds distinct

characteristics. The type of culture that the organization possesses can shape the interorganizational citizenship behaviors at varying levels and degrees. While in an organization with clan culture, the parental role might lead to support, tolerance, and collectivism, an opposite type of citizenship behavior might be exhibited in an organization with market culture because competition is dominant. Because formal relations, formal procedures, and rules are dominant in an organization with a hierarchical culture, information sharing, a subdimension of interorganizational citizenship behavior, might constitute a crime for the employees in the organization (Autry, Skinner, & Lamb, 2008, p. 56; Özdevecioğlu & Akın, 2013, p. 120).

In the relevant literature, Okechukwu (2017) conducted a study with employees in three institutions in Lagos, Nigeria. The study revealed that cultural effects are essential for measuring organizational citizenship behaviors and that health policies to be implemented without considering the effect of this variable would be inaccurate. In a study with 1613 teachers in the education sector, Avcı (2016) found that organizational culture perception could predict citizenship behaviors and that there is a moderate positive relationship between the two. Wasti and Baltacı (2016) aimed to investigate the effect of organizational citizenship behavior on its universal and cultural dimensions. They emphasized the varying aspects of organizational citizenship behaviors in diverse cultures in the contexts of North America, China, and Turkey. Kutanis and Mercan (2015) analyzed data collected from 412 nurses employed in Turkish Armed Forces (TSK) Medical Hospitals through the survey method. As a result, a positive relationship was revealed among organizational culture and perspectives on information, level of information sharing, and openness of intraorganizational cognitive channels, which are the dimensions of information sharing. Özdevecioğlu and Akın (2013, p. 124) conducted their study with 224 enterprises operating in different sectors in Kayseri to determine the relationship between the types of organizational culture and interorganizational citizenship behaviors. The results of their study showed that hierarchy and market culture had a negative relationship with interorganizational citizenship behavior and some of its subdimensions and that clan and adhocracy culture had a positive relationship with interorganizational citizenship behavior and some of its subdimensions. Çelik and Bingöl (2007) conducted a study with 945 employees working at companies with operations in the electronics and software fields in the defense sector. They found that there was a strong positive relationship between the dimensions of organizational culture and citizenship behaviors. They argued that among the reasons for which the results were similar although the organizations were different was that they had similar areas of operation in light of their members of the same association, had joint projects, and were in a close relationship because of their work. In a study with 475 employees working at a leading company with national and international operations in the furniture sector, Kalkan and Öğüt (2013) determined that the subdimensions—participation, adaptability, and vision—of organizational culture positively affected citizenship behaviors.

When the concepts were analyzed in the context of intercultural citizenship behavior, it was seen that employees coming from a collectivist culture exhibited a greater amount of citizenship behavior when compared with employees coming from an individualistic culture (Wanxian & Weiwu, 2007, pp. 225-234). Besides, employees limit their citizenship behavior if the organization has a mechanical (hierarchical) culture structure but display citizenship behavior by taking initiatives beyond their role definitions if they have an organic structure (Somech & Drach-Zahavy, 2004, pp. 281-298; Somech & Ron, 2007, pp. 38-66).

The hypotheses of the study were based on the findings of earlier studies in the literature that explored the relationship between organizational culture and interorganizational citizenship behavior, as well as "Social Exchange Theory," and were developed as follows:

H1: There is a difference between demographic characteristics and organizational culture perceptions of healthcare professionals.

H2: There is a difference between demographic characteristics of and organizational citizenship behaviors exhibited by healthcare professionals.

H3: There is a significant relationship between the type of organizational culture perceived and the interorganizational citizenship behavior exhibited by healthcare professionals.

H4: The nature of the organizational culture perceived affects the interorganizational citizenship behavior exhibited by healthcare professionals.

## Method

### Study Variables and Instrument

The study adopted a descriptive cross-sectional design. The data of the study were collected via a survey. Two scales were used in the study, namely, "Organizational Culture" and "Interorganizational Citizenship Behavior." In addition to the scales, gender, age, level of education, professional experience, and time at the workplace were collected under the title of demographic information and included in the survey. To reveal the organizational culture perceptions of participants, the "Organizational Culture" scale developed by Cameron and Quinn (1999) and translated into Turkish by Akdoğan and Kurt (2010) was used. The scale consists of 24 items. The scale has four subdimensions, namely, clan, adhocracy, market, and hierarchy. Each of the dimensions was measured by six items, namely, the dominant characteristics of the organization, organizational leadership, the management of employees, organizational commitment, strategical importance, and achievement. The most frequently used method in the literature to measure internal consistency is the coefficient known as Cronbach's alpha. Hair, Black, Babin, and Anderson (2010) argued that an acceptable value should be 0.70 and above and that a reliability value between 0.60 and 0.70 is acceptable (Hair, Black (Babin & Anderson, 2010, p. 679)).

The result of the analysis carried out to determine the reliability level in the study showed that the coefficient of the organizational culture scale was α = 0.98. A 5-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree), was used to determine participants' levels of agreement with the 24 items on the organizational culture scale. Some of the statements under the organizational culture scale were as follows: "My business is very special and like a family; my business has a very dynamic and entrepreneur setting; my business is result-oriented to a considerable extent; my organization has a very controlled and structured setting."

"The Interorganizational Citizenship Behavior Scale," developed by Autry et al. (2008) and edited and translated into Turkish by Özdevecioğlu (2009), was used to measure interorganizational citizenship behavior. The scale consists of 23 items in four subdimensions, namely, interorganizational altruism, information sharing, sportsmanship, and compliance. The interorganizational altruism dimension was measured with eight items; the interorganizational information sharing dimension was measured with five items; the interorganizational sportsmanship dimensions were measured with six items; and the interorganizational compliance dimension was measured with four items. The reliability levels that show the internal consistency between variables were calculated in terms of the quality of analyses. The coefficient calculated for the interorganizational citizenship behavior scale in this study was α = 0.93. A 5-point Likert scale was used in the study to determine participants' level of agreement with the 23 items on the interorganizational citizenship behavior scale. Some of the statements under the scale were as follows: "If an institution has a problem related to our field of expertise, we make them benefit from our expertise. We might lend tools and supplies for a brief period to the organizations that we are in cooperation with."

Population and Sampling

The population of the study consisted of healthcare professionals (n = 2,896) working at city hospitals in Bursa, Eskişehir, and Bilecik and operating under the Ministry of Health. Simple random sampling was used to determine the sample group. In this regard, taking p and q values as 0.05, Lot Tolerance Percent Defective as E = .05, and 95% confidence interval, it was found that 340 participants could represent 2,896 individuals in a confidence interval of 95% (Yazıcıoğlu & Erdoğan, 2004, p. 50). By contrast, Hair et al. (2010) suggested that the minimum sample size should be five times more than the number of observed variables and that a more acceptable sample size should be 10 times more than the number of observed variables. Because the number of observed variables in this study was 67, reaching 670 (67 × 10) participants was targeted to achieve an acceptable sample size. At the end of the study, the data were collected from 2,239 individuals. Eighty-three participants from the whole group had to be left out of analysis because of missing data, filling out the survey without enough attention, and having outlier values. In the end, the sample consisted of 2156 healthcare professionals.

## Data Analysis

The data collected through the survey forms were analyzed before data analysis, and it was seen that the missing data rate was lower than 4%. The missing data were estimated using the expectation-maximization algorithm (imputation). Before carrying out the analyses pertaining to the hypothesis tests, it was evaluated as to whether the data had a normal distribution. The skewness and kurtosis values were between ± 2.50. This indicates that the data have a normal distribution (Kline, 2011, p. 63). An independent sample t-test was used to compare organizational culture and interorganizational citizenship behavior scores by the gender variable; one-way analysis of variance was used to compare them according to the variables of level of education, age, profession, professional seniority, and duration of employment at the workplace; and the Least Significant Difference' Post-Hoc test was used for the comparison of binary variables. Pearson correlation coefficients were calculated to assess the relationships between the participants' organizational culture and interorganizational citizenship behavior scores. Multiple linear regression analysis was used to determine the effect of the components of organizational culture on interorganizational citizenship behavior. Variance inflation factor (VIF) values were calculated and analyzed to determine whether there is multicollinearity between the independent variables included in the regression analysis. A VIF value of 10 or higher indicates that there is multicollinearity between data (O'brien, 2007, p. 684). In this study, the calculated VIF values indicated that there was multicollinearity between the variables (VIF > 10). When the relationships between the variables were examined, it was observed that the relationship between the clan and adhocracy variables led to multicollinearity ($r = .96$; $p < .01$). One of the suggested solutions in case of multicollinearity is to combine the variables and incorporate them into the analysis (O'brien, 2007, p. 683). Accordingly, the mean scores on clan and adhocracy were found, and these variables were included in the analysis as clan and adhocracy variables. After the variables were combined, no problem of multicollinearity was observed between the calculated variables (VIF = 6.58 < 10). Some of the characteristics of clan culture and some of the characteristics of adhocracy culture may be present together in an organization (Özdevecioğlu & Akın, 2013, p. 124). Furthermore, according to the "Competing Values Model" by Cameron and Quinn (1999), the organizational culture of clan and adhocracy is based on flexibility, participation, and dynamism. The statistical analyses of the research hypotheses were carried out on the data set after the missing data were completed.

# Results

## Descriptive Statistics

The majority of the employees who participated in the study were women (n = 1528, 71.2%); were in the age range of 32–45 (n = 1251, 58.3%); had an undergraduate degree (n = 815, 38%); were employed as a midwife-nurse (n = 983,

45.7%); had 21 years of professional experience or more (n = 771, 35.8%); had been working at the hospital where they were employed for 6–10 years (n = 626, 29.1%)

Normality Test

The skewness and kurtosis coefficients of the dataset of the study were in the range of $1.27 < \text{Skewness} < -0.09$ and $-0.84 < \text{Kurtosis} < 2.45$. The calculated coefficients showed that the data had a normal distribution. When the mean scores are considered, the dominant organizational culture types in the organizations that were based on employees' perceptions were hierarchy, clan and adhocracy, and market, in that order. Cook distance values were calculated by multivariate extreme value analysis in the dataset. The fact that the calculated distance values were lower than 1 indicates that multivariate extreme values were not included in the dataset (Field, 2013). The highest Cook distance value calculated in the study was 0.04. The results showed that there were no multivariate extreme values in the dataset. The kinds of organizational culture perceived by the healthcare professionals in the study were hierarchy, clan and adhocracy, and market cultures. The IOCB exhibited most frequently by the healthcare professionals in the study were in the subdimensions of information sharing, altruism, sportsmanship, and compatibility (Table 1).

<Table 1 about here>

Participants' Perceptions of Organizational Culture Based on Their Demographic Characteristics

Table 2 shows that while the organizational culture perceptions of healthcare professionals in public hospitals did not vary by age and professional seniority, they varied by gender, education, profession, and the duration of employment at the same workplace ($p > .05$). Hypothesis H1 was confirmed by the results we obtained.

<Table 2 about here>

Participants' Perceptions of Interorganizational Citizenship Behavior Based on Their Demographic Characteristics

Table 3 shows that among healthcare professionals, IOCB and its subdimensions did not vary by age, while the subdimension of interorganizational information sharing was higher among women. Besides, IOCB varied by profession and professional seniority; and the subdimensions of interorganizational sportsmanship and interorganizational compliance varied by education and duration of employment at the same workplace ($p > .05$). Hypothesis H2 was confirmed by the results we obtained.

<Table 3 about here>

Hypotheses H1 and H2 were accepted based on the results we got (Tables 2 & 3).

The Results of Correlation Analysis

Table 4 shows that there were positive correlations at low and moderate levels among clan and adhocracy, market, and hierarchy scores and interorganizational

altruism, interorganizational information sharing, interorganizational sportsmanship, interorganizational compliance, and IOCB total scores. When the mean scores are considered, the dominant organizational culture types in the organizations based on employees' perceptions were hierarchy, clan and adhocracy, and market, in that order. According to Table 4, Hypothesis H3 was confirmed.

<Table 4 about here>

The Results of Regression Analysis

When Table 5 is examined, it is understood that the regression model developed to determine the effect of organizational culture on interorganizational citizenship behavior was statistically significant ($R2 = .14$, $F[3,2155] = 115.32$, $p < .001$). The components of organizational culture explained 14% of the variance in interorganizational citizenship behavior. Clan and adhocracy ($\beta = 0.414$; $p < .01$) and market culture ($\beta = 0.245$; $p < .01$) affect interorganizational citizenship behavior positively. Also, the hierarchy culture has a negative effect on interorganizational citizenship behavior ($\beta = -0.310$; $p < .01$).

When Table 5(a) is examined, it is understood that the regression model developed to determine the effect of organizational culture on interorganizational altruism was statistically significant ($R2 = .15$, $F[3,2155] = 129.51$, $p < .001$). The components of organizational culture explained 15% of the variance in interorganizational altruism. Clan and Adhocracy ($\beta = 0.373$; $p < .01$) and market culture ($\beta = 0.216$; $p < .01$) affected interorganizational altruism positively. Moreover, the hierarchy culture had a negative effect on interorganizational altruism ($\beta = -0.204$; $p < .01$).

When Table 5(b) is examined, it is understood that the regression model developed to determine the effect of organizational culture on interorganizational information sharing was statistically significant ($R2 = .17$, $F[3,2155] = 142.73$, $p < .001$). The components of organizational culture explained 17% of the variance in interorganizational information sharing.

When Table 5(c) is examined, it is understood that the regression model developed to determine the effect of organizational culture on interorganizational sportsmanship was statistically significant ($R2 = .10$, $F[3,2155] = 78.74$, $p < .001$). The components of organizational culture explained 10% of the variance in interorganizational sportsmanship.

When Table 5(d) is examined, it is understood that the regression model developed to determine the effect of organizational culture on interorganizational compliance is statistically significant ($R2 = .10$, $F[3,2155] = 75.04$, $p < .001$). The components of organizational culture explained 10% of the variance in interorganizational compliance.

Based on these results, Hypothesis H4 was partially confirmed. Clan and adhocracy, which are among the subdimensions of organizational culture, do not have an impact on interorganizational information sharing, which is a subdimension of

IOCB.

Based on these results, Hypothesis H4 was partially confirmed. Clan and adhocracy, which are among the subdimensions of organizational culture, do not have an impact on interorganizational information sharing, which is a subdimension of interorganizational citizenship behavior.

<Table 5 about here>

Conclusion and Discussion

Interorganizational citizenship behavior is the prosocial behavior that is exhibited by one of the organizations that cooperate with each other and that is carried out to improve the operation and performance of the organization, without any agreement with another organization. This study was conducted with healthcare professionals working in three independent health institutions under the same system and in the same field of operation. This study discussed interorganizational citizenship behaviors regarding organizational culture, within its scope, which has a leading role in the attitudes and behaviors of the members of an organization. This study investigated whether organizational culture and interorganizational citizenship behaviors differ by the demographic characteristics of healthcare professionals; the relationship of clan, adhocracy, market, and hierarchy culture, which are subdimensions of organizational culture, with the subdimensions of interorganizational citizenship behavior; and the effect of the nature of culture on the interorganizational citizenship behaviors. The study was conducted with 2156 healthcare professionals employed in public hospitals under the Ministry of Health of the Republic of Turkey in the provinces of Bursa, Bilecik, and Eskişehir. The results of data analysis revealed that while the organizational culture perceptions of healthcare professionals did not vary by age and professional seniority, they varied by gender, educational level, profession, and the duration of employment at the same workplace. In the study, the hierarchy culture perceptions of the participants were higher in favor of female healthcare professionals. The results of the study are in parallel with the findings of the studies by Terzi (2005) and İpek and Saklı (2012, p. 261). Terzi (2005) found women to perceive their organizations bureaucratically, and İpek and Saklı (2012, p. 261) found that female employees had higher perceptions of traditional organizational culture than did males. The assumption that gender affects organizational culture perceptions is based on the fact that the duties assigned to women and men in society are different and that this difference affects their behaviors. According to the gender model that is based on the traditional way of thinking, while wage and career are important for men at the workplace, the difficulty of working conditions and social relations are important for women (Temel, A, Yakın, M, Misci, 2006, pp. 27-38). In a study conducted by Aydıntan and Göksel (2012, p. 59) with 343 participants in two types of hospitals in the specialized and general service classes, the dominant culture in the hospitals was the hierarchy culture; however, when cultural differences were examined in terms of gender, it was found that men

adopted the market culture. In the healthcare sector, which is a sub-branch of the service sector, the employment rate of female employees appears to be higher than that of male employees in quantitative terms. It is a well-known fact that women more widely prefer occupations that perform specific tasks, such as midwifery, nursing, and medical secretaryship. In recent years, there has been a remarkable increase in female employment in almost every sector (Barutçugil, 2003, p. 38; TUIK, 2019). Here, it is important that demographic changes occurring in the gender variable not be overlooked in organizational culture analyses. In the study, owing to the analyses performed on the impact of demographic characteristics on organizational culture perceptions, it was found that the healthcare professionals who had been working for 1-10 years and 10-20 years at the same workplace had higher perceptions of hierarchy culture. It was also found in the study that the organizational culture perceptions of the healthcare professionals employed as doctors and midwives/nurses were higher when compared with those of other healthcare professionals. A healthcare professional employed as a doctor in health institutions must complete an undergraduate education of 6 years, and a healthcare professional employed as a midwife-nurse must complete an undergraduate education of 4 years. Doctors, midwives, and nurses are trained and incorporated into the organization within the framework of several professional norms, values, and objectives, starting with professional training. Over time, as the time that individuals spend in the profession and the level of material/nonmaterial investment that they make in their profession increase, they internalize their professional values and ideology (Balay, 2000; Samadov, 2006) and develop a sense of belonging to the organization in which they socialize. The healthcare institutions in the present study operate on behalf of the Ministry of Health. When the studies on the analysis of the dominant organizational culture from the perspective of health institutions are examined, Karahan (2008, p. 463), who conducted study with the participation of 441 employees working at Afyon Kocatepe University Hospital comes to light, with its finding that the staff and hospital directors had strong organizational culture perceptions. Erdem (2007, p. 72) found in a study conducted with 256 healthcare professionals employed at the university, public, and private hospitals in Elazığ that market culture perception was dominant in university hospitals; hierarchy culture perception was dominant in public hospitals; and clan culture perception was dominant in private hospitals.

In this study, the most common interorganizational citizenship behaviors exhibited by healthcare professionals were interorganizational information sharing, interorganizational altruism, interorganizational sportsmanship, and interorganizational compliance. The community that involves the health institutions where the study was conducted has a collectivist cultural structure and feminine (being compassionate, compliance) characteristics. The sense of “we,” rather than “I,” cooperation and dependence in relationships are dominant in the cultures of collectivist nations. The characteristics of the society and the branch of service

industry in which the organization operates should not be overlooked in the analyses of citizenship behavior. In this context, the health sector is different from other service industries with its unique characteristics. Health institutions, the basic input and output of which are people, are institutions that have social responsibilities, such as education, research, and development; the improvement of the health quality of society; and the provision of health services (Official (Gazette, 2011), Ankara). Healthcare service providers must also serve a large number of units and individuals. Therefore, functional dependence is high in health institutions. Therefore, there is a high amount of interaction, cooperation, and collaboration among groups. When healthcare institutions are reviewed in terms of human resources, they are composed of professional employees with a prominent level of professionalization. When performing their jobs, healthcare professionals present health services considering professional ethics. The requirement of specialized knowledge and skill for the job, the presence of autonomy, and a sense that the job is essential create a sense of individual responsibility in the individual (Hackman and old man, 1976: 2,250-279). Therefore, employees develop a system on their own and pay attention not to make mistakes without being aware of it (Aktay & Ekşi, 2009, p. 77). The workplace setting that gives autonomy and responsibility and is not closely supervised by a manager increases intrinsic motivation and organizational commitment and contributes to more citizenship behaviors exhibited by employees in an organization (Keleş & Tuna, 2009, p. 27).

In the next stage of the study, we examined whether there was a difference between demographic characteristics and interorganizational citizenship behaviors of healthcare professionals. In this study, the interorganizational information sharing scores of the female healthcare professionals, the interorganizational sportsmanship scores of those with a graduate degree, and the interorganizational compliance scores of those with an undergraduate degree were higher than those of other participants. It is stated in the literature that behaviors such as altruism, interpersonal compliance, and kindness are exhibited explicitly by women and that sportsmanship behaviors are exhibited explicitly by men (İplik, 2010, p. 50). In their study about information sharing behaviors among middle-level bank managers, Durna, Ardıç, and Uzun (2006) found that female managers exhibited a higher level of information sharing behaviors when compared with male managers. Riege (2005) found in a study that gender difference, which is among the individual factors, affect information sharing. Although there are studies supporting the findings of the present study in the literature, there are also research findings that show that gender does not affect information sharing behavior (Demirhan & Bozkurt, 2010; Köseoğlu, Gider, & Ocak, 2011, p. 224). In the study, participants with the status of health officer had the lowest information sharing behavior score when compared with participants with other titles. Jabr (2007) found in a study conducted in healthcare organizations that doctors frequently engage in information sharing behavior, that the behavior of sharing with their colleagues is a requirement of professionalism, and that young physicians do not

exhibit voluntary information sharing behavior because of their excessive workload and the negative attitudes of senior physicians. In addition, it was found in this study that healthcare professionals with an employment time of 21 years and above had higher interorganizational citizenship behaviors and that the participants with an employment time of 21 years or above at the same workplace had higher scores on the dimensions of interorganizational sportsmanship and compliance. Atalay (2010, p. 57) and Kürekli (2011, p. 19) stated that the higher age and seniority of employees indicated higher commitment to the organization and that such employees perceived every behavior to be exhibited for the benefit of their organizations as their duties within the scope of their occupation.

According to the findings of the study, healthcare professionals associate their hospitals more with hierarchy culture, and their perceptions of hierarchy culture were higher than their mean scores on clan and adhocracy and market culture. It is an expected result that hierarchy culture perception was higher in public health institutions that are still dominated by bureaucracy. Hierarchy culture represents mechanical organizations that emphasize top-down communication, bureaucracy, communication, stability, and stagnation. There are studies showing that hierarchical organization typology is more prominent in the Turkish public sector (Aydıntan & Göksel, 2012; Danışman & Özgen, 2003; Erdem, 2007; Erdem, Adıgüzel, & Kaya, 2010; Kaya, 2008). Following their perceptions of hierarchy culture, healthcare professionals associate their institutions with clan and adhocracy and market culture, in that order. It is possible to see all four types of culture in an organization at the same time; however, one may be more dominant than the others (Jones, Jimmieson, & Griffiths, 2005, p. 364). Positive relations between clan and adhocracy cultures indicate that these two cultures have similar aspects. That is to say, some of the characteristics of clan culture and some of the characteristics of adhocracy culture may be present together in an organization. Clan culture refers to a large family setting; an internal focus where unity and solidarity are important; and dominant informal control processes. Adhocracy culture refers to entrepreneurial, dynamic, and innovative organizational settings; a low tendency for centralization; and importance attached to change and development. The culture type of clan and adhocracy constitutes common ground in terms of flexibility, participation, and dynamism. According to Cameron and Quinn's "Competing Values Model," the organizational culture perceptions of healthcare professionals employed in healthcare institutions are closer to the point of stagnation and control but have a tendency toward flexibility-dynamism at the same time.

Another significant result of the study is related to the relationships between types of organizational culture and interorganizational citizenship behavior. While clan and adhocracy and market culture, which are subdimensions of organizational culture, have positive effects on interorganizational citizenship behavior, hierarchy culture has been found to have a negative effect on interorganizational citizenship

behavior. Özdevecioğlu and Akın (2013, p. 124), who conducted a study with 224 enterprises operating in different sectors in Kayseri, intended to determine the relationship between the types of organizational culture and interorganizational citizenship behaviors. Their study results showed that hierarchy and market culture had a negative relationship with interorganizational citizenship behavior and some of its subdimensions and that clan and adhocracy culture had a positive relationship with interorganizational citizenship behavior and some of its subdimensions. The positive relationship between market culture and interorganizational citizenship behavior found in this study was not consistent across these two studies. When the two studies are compared, the sectors in which the studies are conducted, and their affiliated ownership, are different. This study was conducted in public health institutions, which are the sub-branches of the service sector, and Özdevecioğlu and Akın (2013) conducted their field study in production-oriented public and private industry- and trade-oriented enterprises. Therefore, it may be predicted as the reason for which different results were found in the studies.

When examined in terms of the subdimensions of interorganizational citizenship behavior, clan and adhocracy, and market culture positively affected interorganizational altruism, interorganizational sportsmanship, and interorganizational compliance behaviors, while hierarchy culture had a negative effect. In clan culture, managers have a parental role, and the organizations have collectivist structures that are oriented toward a common goal, and there is an emphasis on unity and solidarity in intraorganizational relations. Managers and employees of the organization are far removed from individualism and selfishness. Therefore, the employees in an organization where clan culture is dominant are expected to be open to altruism and information sharing behaviors. When the dominant characteristics of adhocracy culture are examined, it is an expected result that the employees exhibit extrarole behaviors in settings where official rules and procedures remain in the background and where individual freedom and creativity are supported. The other remarkable aspect of the study was that clan and adhocracy culture did not affect interorganizational information sharing, whereas market and hierarchy culture had a positive effect on interorganizational information sharing. Managers and employees in an organization that is dominated by market culture are focused on concrete achievements and outcomes, market leadership, and winning. Knowledge is the most important strategic and competitive tool in the market which such organizations will adopt, and thus, they cannot be expected to share their knowledge power with another organization. In hierarchy culture, any information that is given outside the job description may constitute a crime for the employee. Considering these well-known universal facts, it is remarkable that the results of this study indicated that the hierarchy and market culture had a positive effect on information sharing behavior in health institutions. Health institutions are organizational structures in which services that are directly related to human life are provided. To manage the medical care process efficiently, they must cooperate with

several professional groups. Therefore, unlike other sectors, functional dependency is high. Besides, health institutions consist of employees with prominent levels of professional specialization and professionalism. Both the high level of specialization and the intensity of medical technology lead to the exhibition of information sharing behavior in health institutions (Köseoğlu et al., 2011, p. 22). Jabr (2007) found physicians frequently engaging in information sharing behavior and their exchange with their colleagues as being a requirement of professionalism. Jabr (2007) also revealed that information sharing that is carried out voluntarily with professionals at the same level, as well as other members of the healthcare organization, contributes positively to the service output. In a study conducted with 378 individuals employed in 12 enterprises in Kırklareli that were operating in the manufacturing sector, Yazar Soyadı, Kumkale, and Akin Gürdal (2014) found that the culture type where information sharing behavior was regarded as prestige was the market culture.

The study is limited to the variables of organizational culture and interorganizational citizenship behavior. The results of the study involve public healthcare institutions where the study was conducted.

This study was carried out in public healthcare institutions where the most intense level of human interaction is experienced. The study revealed the impact of organizational culture characteristics perceived by healthcare professionals on their interorganizational citizenship behaviors. Healthcare professionals employed in public health institutions define the organizational culture that is dominant in their organizations as hierarchy culture. The lowest organizational culture perception of healthcare professionals was found to be market culture. The study also determined that hierarchy and market culture perception of healthcare professionals positively affected interorganizational information sharing, clan and adhocracy, and market culture positively affected the subdimensions of interorganizational altruism, interorganizational sportsmanship, and interorganizational compliance behaviors, while hierarchy culture affected these subdimensions negatively.

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Table 1. Results of the Normality Test

| Variables | Arithmetic mean | Standard deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| Clan and Adhocracy | 3.13 | 0.91 | −0.67 | −0.46 |
| Market | 3.05 | 0.74 | −0.63 | 0.21 |
| Hierarchy | 3.31 | 0.91 | −0.92 | 0.04 |
| Interorganizational altruism | 3.51 | 0.61 | −0.93 | 1.35 |
| Interorganizational information sharing | 3.72 | 0.66 | −1.27 | 2.45 |
| Interorganizational sportsmanship | 3.50 | 0.68 | −0.44 | 0.85 |
| Interorganizational compatibility | 3.27 | 0.87 | −0.09 | −0.84 |
| Interorganizational citizenship behavior | 3.51 | 0.61 | −0.59 | 1.27 |

Table 2. Comparison of Organizational Culture Based on Demographic Characteristics of Participants

| Variables | | Clan Adhocracy | | Market | | Hierarchy | |
|---|---|---|---|---|---|---|---|
| | n | M | SD | M | SD | M | SD |
| Gender | | | | | | | |
| Male | 628 | 3.10 | 0.94 | 3.02 | 0.81 | 3.22 | 0.94 |
| Female | 1528 | 3.14 | 0.90 | 3.06 | 0.71 | 3.35 | 0.89 |
| T | | −1.06 | | −0.92 | | −3.00** | |
| Age | | | | | | | |
| 18-31 years old | 518 | 3.09 | 0.88 | 3.04 | 0.70 | 3.30 | 0.87 |
| 32-45 years old | 1263 | 3.13 | 0.91 | 3.04 | 0.74 | 3.31 | 0.91 |
| 46 years old and above | 375 | 3.17 | 0.96 | 3.07 | 0.80 | 3.35 | 0.96 |
| F | | 0.94 | | 0.21 | | 0.31 | |
| Educational background | | | | | | | |
| High school | 393 | 3.07 | 0.91 | 3.02 | 0.67 | 3.30 | 0.93 |
| Associate degree | 821 | 3.04 | 0.93 | 2.95 | 0.77 | 3.21 | 0.94 |
| Bachelor's degree | 563 | 3.17 | 0.88 | 3.07 | 0.69 | 3.35 | 0.85 |
| Postgraduate Degree | 379 | 3.31 | 0.89 | 3.25 | 0.77 | 3.50 | 0.86 |
| F | | 8.21** | | 14.20** | | 8.79** | |
| Profession | | | | | | | |
| Physician | 369 | 3.33 | 0.88 | 3.25 | 0.78 | 3.48 | 0.88 |
| Midwife/nurse | 986 | 3.12 | 0.89 | 3.05 | 0.70 | 3.33 | 0.88 |
| Health Officer | 98 | 3.02 | 0.90 | 2.94 | 0.69 | 3.19 | 0.83 |
| Other health officials | 179 | 3.20 | 0.83 | 3.08 | 0.62 | 3.43 | 0.82 |
| Technician | 293 | 2.89 | 1.04 | 2.79 | 0.87 | 2.99 | 1.05 |
| Medical Secretary | 231 | 3.12 | 0.85 | 3.05 | 0.69 | 3.34 | 0.87 |
| F | | 8.20** | | 13.20** | | 11.46** | |
| Professional experience | | | | | | | |
| 1-10 years | 627 | 3.12 | 0.88 | 3.06 | 0.69 | 3.34 | 0.86 |
| 11-20 years | 755 | 3.11 | 0.90 | 3.04 | 0.77 | 3.29 | 0.91 |
| 21 years and above | 774 | 3.15 | 0.95 | 3.05 | 0.76 | 3.32 | 0.94 |
| F | | 0.52 | | 0.13 | | 0.55 | |
| Years of experience at the workplace | | | | | | | |
| 1-10 years | 1,182 | 3.12 | 0.89 | 3.05 | 0.72 | 3.32 | 0.88 |
| 11-20 years | 643 | 3.19 | 0.88 | 3.10 | 0.72 | 3.39 | 0.89 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 years and above | 331 | 3.02 | 1.02 | 2.94 | 0.84 | 3.14 | 1.01 | | | |
| F | | 4.10* | | 5.21** | | 8.17** | | | | |

**p < .01. *p < .05.

Table 3. Comparison of Interorganizational Citizenship Behavior Based on the Demographic Characteristics of Participants

| Variables | | Interorganizational altruism | | Interorganizational information sharing | | Interorganizational sportsmanship | | Interorganizational compliance | | ICB total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | M | SD | M | SD | M | SD | M | SD | M | SD |
| Gender | | | | | | | | | | | |
| Male | 628 | 3.50 | 0.73 | 3.66 | 0.72 | 3.51 | 0.75 | 3.33 | 0.92 | 3.51 | 0.67 |
| Female | 1528 | 3.52 | 0.66 | 3.75 | 0.66 | 3.50 | 0.66 | 3.25 | 0.84 | 3.52 | 0.58 |
| t | | −0.41 | | −3.04** | | 0.16 | | 1.89 | | −0.36 | |
| Age | | | | | | | | | | | |
| 18-31 years old | 518 | 3.38 | 0.70 | 3.63 | 0.72 | 3.35 | 0.68 | 3.11 | 0.88 | 3.38 | 0.60 |
| 32-45 years old | 1263 | 3.54 | 0.68 | 3.74 | 0.65 | 3.54 | 0.67 | 3.33 | 0.85 | 3.55 | 0.61 |
| 46 years old and above | 375 | 3.60 | 0.63 | 3.79 | 0.59 | 3.58 | 0.66 | 3.30 | 0.88 | 3.58 | 0.59 |
| F | | 14.93** | | 8.25** | | 18.14** | | 12.28** | | 17.92** | |
| Educational background | | | | | | | | | | | |
| High school | 393 | 3.54 | 0.62 | 3.79 | 0.56 | 3.50 | 0.66 | 3.19 | 0.88 | 3.52 | 0.56 |
| Associate degree | 821 | 3.48 | 0.73 | 3.70 | 0.70 | 3.48 | 0.70 | 3.26 | 0.85 | 3.49 | 0.66 |
| Bachelor's degree | 563 | 3.54 | 0.63 | 3.72 | 0.63 | 3.58 | 0.61 | 3.39 | 0.80 | 3.56 | 0.56 |
| Postgraduate degree | 379 | 3.52 | 0.70 | 3.70 | 0.72 | 3.45 | 0.76 | 3.20 | 0.97 | 3.49 | 0.65 |
| F | | 1.36 | | 1.83 | | 3.62* | | 5.68** | | 1.99 | |
| Profession | | | | | | | | | | | |
| Physician | 369 | 3.57 | 0.68 | 3.73 | 0.70 | 3.50 | 0.76 | 3.26 | 0.98 | 3.53 | 0.66 |
| Midwife/nurse | 986 | 3.50 | 0.68 | 3.72 | 0.67 | 3.50 | 0.66 | 3.29 | 0.83 | 3.51 | 0.60 |
| Health Officer | 98 | 3.41 | 0.73 | 3.47 | 0.67 | 3.42 | 0.77 | 3.33 | 0.86 | 3.41 | 0.67 |
| Other health officials | 179 | 3.54 | 0.52 | 3.81 | 0.53 | 3.40 | 0.60 | 3.00 | 0.85 | 3.47 | 0.51 |
| Technician | 293 | 3.60 | 0.69 | 3.74 | 0.66 | 3.67 | 0.66 | 3.51 | 0.84 | 3.63 | 0.66 |
| Medical Secretary | 231 | 3.39 | 0.74 | 3.75 | 0.62 | 3.41 | 0.62 | 3.08 | 0.82 | 3.42 | 0.57 |
| F | | 3.59** | | 3.69** | | 5.50 | | 10.63** | | 4.17** | |
| Professional experience | | | | | | | | | | | |
| 1-10 years | 627 | 3.44 | 0.67 | 3.68 | 0.68 | 3.39 | 0.66 | 3.11 | 0.86 | 3.42 | 0.58 |
| 11-20 years | 755 | 3.46 | 0.73 | 3.67 | 0.71 | 3.47 | 0.71 | 3.27 | 0.87 | 3.48 | 0.65 |
| 21 years and above | 774 | 3.62 | 0.62 | 3.82 | 0.58 | 3.63 | 0.66 | 3.40 | 0.85 | 3.63 | 0.57 |
| F | | 15.60** | | 11.90** | | 22.74** | | 20.54** | | 22.56** | |
| Years of experience at the workplace | | | | | | | | | | | |
| 1-10 years | 1,182 | 3.49 | 0.67 | 3.72 | 0.67 | 3.48 | 0.68 | 3.24 | 0.88 | 3.49 | 0.61 |
| 11-20 years | 643 | 3.52 | 0.69 | 3.75 | 0.66 | 3.48 | 0.67 | 3.20 | 0.87 | 3.50 | 0.59 |
| 21 years and above | 331 | 3.57 | 0.68 | 3.68 | 0.68 | 3.64 | 0.66 | 3.51 | 0.79 | 3.60 | 0.66 |
| F | | 1.81 | | 1.12 | | 7.90** | | 15.55** | | 4.19* | |

**p < .01. *p < .05.

Abbreviations: ICB Interorganizational citizenship behavior

Table 4. Pearson Correlation Coefficients of the Relationships between Organizational Culture and Interorganizational Citizenship Behavior

| | Variables | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. |
|---|---|---|---|---|---|---|---|---|---|
| 1. | clan and adhocracy | 1 | | | | | | | |
| 2. | market | 0.866** | 1 | | | | | | |
| 3. | hierarchy | 0.903** | 0.872** | 1 | | | | | |
| 4. | interorganizational altruism | 0.376** | 0.361** | 0.322** | 1 | | | | |
| 5. | interorganizational information sharing | 0.374** | 0.389** | 0.399** | 0.752** | 1 | | | |
| 6. | interorganizational sportsmanship | 0.276** | 0.248** | 0.194** | 0.708** | 0.647** | 1 | | |
| 7. | interorganizational compliance | 0.125** | 0.114** | 0.006 | 0.532** | 0.429** | 0.748** | 1 | |
| 8. | ICB total | 0.346** | 0.333** | 0.277** | 0.904** | 0.823** | 0.904** | 0.774** | 1 |
| | $\bar{X}$ | 3.13 | 3.05 | 3.31 | 3.51 | 3.72 | 3.50 | 3.27 | 3.51 |
| | SD | 0.91 | 0.74 | 0.91 | 0.68 | 0.66 | 0.68 | 0.87 | 0.61 |

**p < .01; n = 2,156; ICB = Interorganizational citizenship behavior.

Abbreviations: ICB Interorganizational citizenship behavior

Table 5. Results of the regression analysis on the Impact of Organizational Culture on Interorganizational Citizenship Behavior

| Variable | Coefficientsa | | |
|---|---|---|---|
| | B | SE B | β |
| (Constant) | 2.73 | 0.05 | |
| Clan and adhocracy | 0.28 | 0.03 | 0.414** |
| Market | 0.20 | 0.04 | 0.245** |
| Hierarchy | −0.21 | 0.03 | −0.310** |
| R2 | | 0.14 | |

-

Table 5(a). Regression Results on the Effect of Organizational Culture on Interorganizational Altruism

| Variable | Coefficientsa | | |
|---|---|---|---|
| | B | SE B | β |
| (Constant) | 2.543 | 0.057 | |
| Clan and adhocracy | 0.279 | 0.037 | 0.373** |
| Market | 0.198 | 0.040 | 0.216** |
| Hierarchy | −0.153 | 0.038 | ,204** |
| R2 | | 0.15 | |

**p < .01.
aDependent variable: Interorganizational Altruism.

Table 5(b). Regression Results on the Effect of Organizational Culture on Interorganizational Information Sharing

| Variable | Coefficientsa | | |
|---|---|---|---|
| | B | SE B | β |
| (Constant) | 2.655 | 0.055 | |
| Clan and adhocracy | 0.001 | 0.036 | 0.001 |

| | | | |
|---|---|---|---|
| Market | 0.152 | 0.039 | 0.170** |
| Hierarchy | 0.182 | 0.037 | 0.250** |
| R2 | | 0.17 | |

**p < .0.
aDependent variable: Interorganizational Information Sharing.

Table 5(c). Regression Results on the Effect of Organizational Culture on Interorganizational Sportsmanship

| Variable | Coefficients[a] | | |
|---|---|---|---|
| | B | SE B | β |
| (Constant) | 2.872 | 0.059 | |
| Clan and adhocracy | 0.352 | 0.038 | 0.474** |
| Market | 0.157 | 0.041 | 0.172** |
| Hierarchy | −0.287 | 0.039 | −0.384** |
| R2 | | 0.10 | |

**p < 0.01.

aDependent variable: Interorganizational Sportsmanship.

Table 5(d). Regression Results on the Effect of Organizational Culture on Interorganizational Compliance

| Variable | Coefficients[a] | | |
|---|---|---|---|
| | B | SE B | β |
| (Constant) | 2.964 | 0.076 | |
| Clan and adhocracy | 0.507 | 0.049 | 0.531** |
| Market | 0.331 | 0.053 | 0.283** |
| Hierarchy | −0.690 | 0.050 | −0.721** |
| R2 | | 0.10 | |

**p < .01.

aDependent variable: Interorganizational Compatibility.